

CASE REPORT

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Association of anhydramnios and uterine rupture in a site of unscarred uterus: A case report

Allegra Mazzeo, Pasquale Mancino

ABSTRACT

Introduction: Uterine rupture is a rare, life-threatening emergency and usually present with significant abdominal pain, vaginal bleeding, and occur on uterine scars.

Case Report: This is the case of a paucisymptomatic uterine rupture associated with anhydramnios. The lack of amniotic fluid was first thought to be caused by a premature membranes rupture hidden by cervical cerclage placed during the second trimester. The misrecognized anhydramnios, the paucity of symptoms, and the absence of vaginal bleeding delayed the diagnosis of uterine rupture, only confirmed by magnetic resonance imaging (MRI) scans showing the fetal arm through the uterine wall. Of interests, the uterine wall was ruptured on a weak site between two myomas and not at the level of the scar of a previous cesarean section.

Conclusion: This report highlights the association between anhydramnios and uterine rupture and suggests considering uterine ruptures even in the presence of mild abdominal pain and no vaginal bleeding.

Keywords: Anhydramnios, Myomas, Unscarred uterus, Uterine rupture

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INTRODUCTION

We present a case of anhydramnios caused by a clinically silent uterine rupture. Uterine ruptures usually present with significant abdominal pain, vaginal bleeding, and occur on uterine scars. In the present case, the uterine rupture occurred without alarming symptoms. The mild abdominal pain responsive to paracetamol was first thought to be caused by the urinary issues suggested by ultrasound (US) and urine proteins. In addition, the cervical cerclage delayed the diagnosis of anhydramnios. In fact, the lack of intrauterine amniotic fluid was thought to be due to a premature rupture of the membranes with no signs of fluid leaking due to the closure of the cervix.

Magnetic resonance imaging showing a fetal arm passing through the uterine wall and free abdominal fluid suggested the diagnosis of abdominal rupture confirmed during emergency caesarean section. In addition, the uterine breach occurred in a weak site of the uterus in-between two myomas and not on the scar of a previous caesarean section.

CASE REPORT

This is the case of a 37-year-old woman, gravida V para 1, referred to our Emergency Department at 34 + 2 weeks of gestation for abdominal discomfort. The patient's obstetric history revealed a previous low cervical cesarean section performed in 2018 for fetal distress and 3 previous miscarriages in the first trimester of pregnancy, resolved spontaneously. In the present pregnancy, a cervical incompetence was treated with a cervical cerclage at 20 weeks of gestation.

The patient had normal values of blood pressure (120/80 mmHg) and pulse rate (84 beats/minute). Physical examination revealed a soft abdomen and a

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relaxed uterus. There were no signs of vaginal bleeding and fetal monitoring showed no signs of fetal distress. A urine test revealed traces of proteins and a US showed a dilation of the left urinary tract. Abdominal ultrasound assessment revealed multiple myomas of the uterus, the larger ones with maximum dimensions of 5 cm and 4 cm.

Finally, obstetric US reported a condition of anhydramnios. A premature rupture of membranes (PROM) test was performed resulting negative as expected considering the cervical cerclage.

Considering the gestation age, the patient was admitted for close monitoring and further investigation of the anhydramnios. Administration of paracetamol improved the abdominal pain of the patient. A subsequent US confirmed the anhydramnios, estimated a fetal weight of 2500 g and excluded placental dysfunctions studying Doppler profiles of the umbilical artery and middle cerebral artery. Given the persistence of mild abdominal pain, an MRI was performed. Magnetic resonance imaging showed the left arm of the fetus passing through a perforation of the anterior face of the uterus (Figure 1). Free fluid in the maternal abdominal cavity was also described.

Emergency caesarean section was performed. Abundant fluid was found free in the abdominal cavity. A transversal hysterotomy was performed and the cephalic fetus was extracted. Hysterorrhaphy revealed a breach of 5 cm on the anterior face of the uterus in between the two main myomas revealed at the abdominal ultrasound (Figure 2). After placental removal and surgical toilet, the uterine defect was closed in a double layer of 2-0 (Figure 3).

The newborn was a male, weighed 2600 g, with an arterial pH of 7.18 and APGAR scores of 7 and 8 at 1 and 5 minutes, respectively. The patient was discharged on day 3 in good general condition.

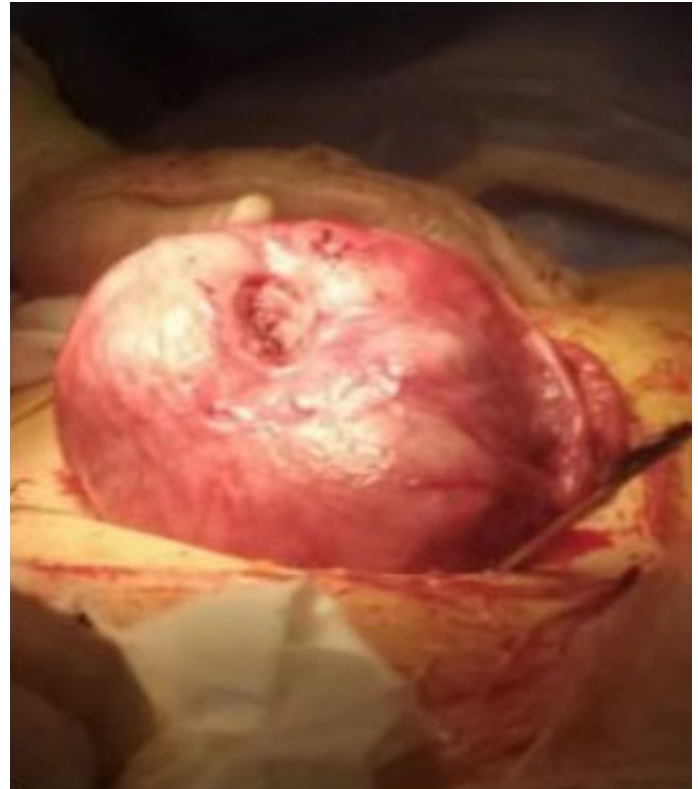


Figure 2: The rupture of the uterus.

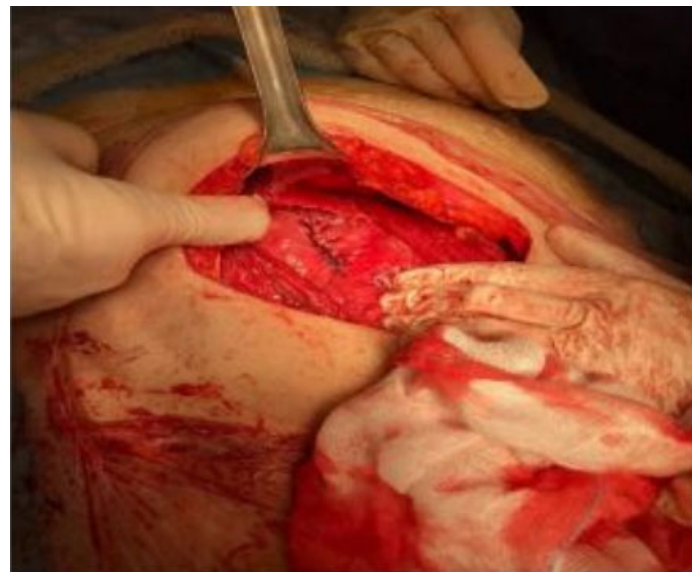


Figure 3: The closure of the breach in a double layer of 2-0.

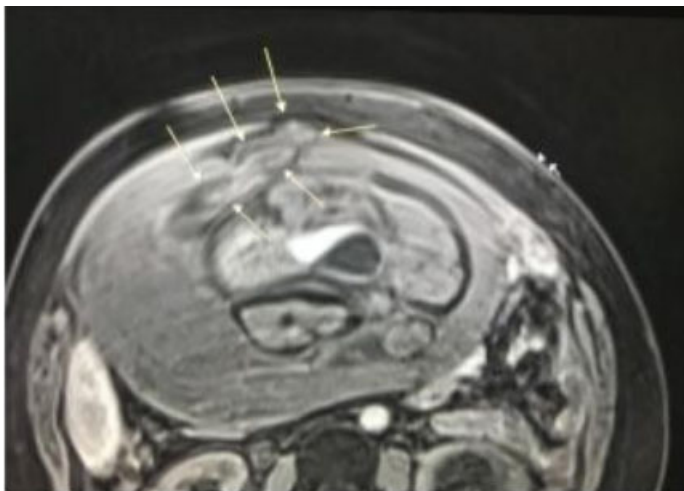


Figure 1: Coronal T2-weighted MRI of the maternal abdomen showing the uterine defect with the protruding fetal arm.

DISCUSSION

Uterine rupture is an uncommon complication affecting 0.3% and 0.012% of pregnant women with scarred and unscarred uterus, respectively [1, 2].

Table 1 provides an overview of the literature describing cases of uterine ruptures with anhydramnios. In 2003, Conturso et al. first documented the case of a spontaneous uterine rupture with amniotic sac protrusion [3]. In their case, anhydramnios occurred just after the uterine rupture

Table 1: Studies describing cases of association between anhydramnios and uterine rupture

Authors	Year	Scarred uterus	Gestational age	Abdominal pain	Bleeding
Contuso et al. [3]	2003	Hysteroscopic metroplasty	28 weeks	Moderate	Present
Teunissen et al. [4]	2006	Curettage	32 weeks	Light	Not present
Tan et al. [5]	2015	Fundal uterine rupture after interstitial pregnancy	34 weeks	Severe	Not present

when the sac had already herniated through the uterine defect. The gestational age was 28 weeks and the cause of the defect was presumably a previous hysteroscopic metroplasty. In 2006, Teunissen et al. described an interesting case of anhydramnios resulting from the perforation of a fetal leg through the uterine wall [4]. In their case, abdominal pain symptoms were absent, suggesting a pre-existing weak spot in the uterine wall, probably resulting from a previous curettage procedure. In 2015, Tan et al. published an unusual presentation of recurrent uterine rupture at the site of a previous rupture. In their case, the anhydramnios described was due to the protrusion of the amniotic sac membrane in the abdominal cavity leaving paradoxically the amniotic sac complete [5].

Differently from the studies reported in literature, in the present case the rupture didn't occur on a uterine scar but on weak spot due to the insertion of myomas. In addition, the lack of significant symptoms was only previously reported by Teunissen et al. [4].

CONCLUSION

Uterine rupture is a rare life-threatening obstetric complication. High levels of caution should be exercised in patients with anhydramnios, a history of prior uterine scars, and/or conditions associated with weakness such as uterine myomas, regardless of abdominal symptoms and vaginal bleeding.

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Author Contributions

Allegra Mazzeo – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Pasquale Mancino – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Guarantor of Submission

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Consent Statement

Written informed consent was obtained from the patient for publication of this article.

Conflict of Interest

Authors declare no conflict of interest.

Data Availability

All relevant data are within the paper and its Supporting Information files.

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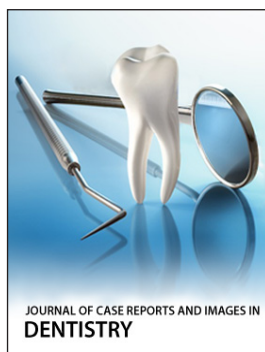
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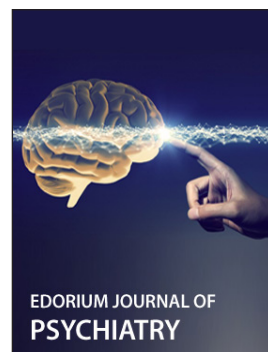
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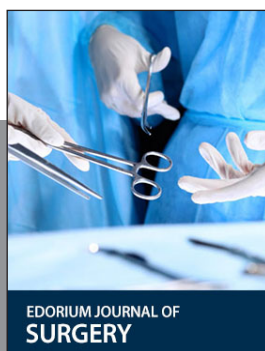
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